

**REMARKS**

The indication of allowable subject matter in claims 2-7 is acknowledged and appreciated. In view of the following remarks, it is respectfully submitted that all claims are in condition for allowance.

Claims 1 and 25 stand rejected under 35 U.S.C. § 112, first paragraph (written description). In order to expedite prosecution, claims 1 and 25 have been amended to delete the objected phrase and to include the recitation “wherein the circuit design data is selected to operate as targeted ...” (similarly to claim 24). It is respectfully submitted that claims 1 and 25, as amended, have proper written description. Accordingly, it is respectfully requested that this rejection be withdrawn.

Claims 1, 24 and 25 stand rejected under 35 U.S.C. § 112, second paragraph as allegedly omitting essential elements. This rejection is respectfully traversed for the following reasons.

As a preliminary matter, it is respectfully submitted that the Examiner’s rejection is *per se* improper in that a § 112, second paragraph rejection is supposed to be based on an alleged failure to interrelate ***claimed*** elements. Here, the Examiner appears to allege that elements from the specification (details of a permutation circuit design data and the key data) are omitted altogether, rather than an interrelation between claimed elements. This reason alone renders the § 112, second paragraph rejection improper. Moreover, as noted in MPEP § 2172.01, “it is not essential to a patentable combination that there be interdependency between the elements of the claimed device or that all the elements operate concurrently toward the desired result,” and “[a]

claim does not necessarily fail to comply with 35 U.S.C. 112, second paragraph where the various elements do not function simultaneously, are not directly functionally related, do not directly intercooperate, and/or serve independent purposes.”

Moreover, the Examiner’s allegation that the *details* of a permutation circuit design data and the key data are essential elements that need to be recited in the claims is an improper attempt by the Examiner to limit the claims to a specific, preferred embodiment. The Examiner is directed to MPEP § 2164.08(c), which sets forth that “[l]imiting an applicant to the preferred materials in the absence of limiting prior art would not serve the constitutional purpose of promoting the progress in the useful arts.” It is respectfully submitted that details of the respective features are simply exemplary/preferred embodiments. The *particular mechanism* by which conversion of the circuit design data into encrypted circuit design data is effected and the *value* of the key data are not essential for operation of the invention in its entire, broad scope. “Features which are merely preferred are not to be considered critical,” *In re Goffe*, 191 USPQ 429, 431 (CCPA 1976) (emphasis added). Indeed, as stated on page 10, lines 12-14 of Applicants’ specification, Fig. 4 simply describes an *example* of the encryption process.

The Examiner alleges that without generating/providing permutation circuit design data for permutating respective outputs of the original circuit design data with the dummy circuit design data, the converting step is not possible. This assertion is not understood. Indeed, it appears that the Examiner ignored the feature that the conversion is performed “by combining the circuit design data and the dummy circuit design data.” In this regard, as would be readily recognized by one of ordinary skill in the art, there are several manners by which circuit design data and the dummy circuit design data can be combined without providing the permutation circuit design data in the particular manner of the exemplary embodiment described in

Applicants' specification (e.g., manual intertwining, circuit design data and the dummy circuit design data combined in series, etc.); and absent prior art, Applicants are entitled to the full scope thereof.

The Examiner further alleges that without the details of the exemplary key data "the essential interrelationships between the step of converting the circuit design and the step of generating key data" is not identified. This assertion is similarly not understood. The Examiner appears to again believe that *exemplary* embodiments described in Applicants' specification are essential. "Features which are merely preferred are not to be considered critical," *In re Goffe*, 191 USPQ 429, 431 (CCPA 1976). Moreover, as noted above and set forth in MPEP § 2172.01, "it is not essential to a patentable combination that there be interdependency between the elements of the claimed device or that all the elements operate concurrently toward the desired result" and "[a] claim does not necessarily fail to comply with 35 U.S.C. 112, second paragraph where the various elements do not function simultaneously, are not directly functionally related, do not directly intercooperate, and/or serve independent purposes" (emphasis added). In this regard, converting the circuit design data into encrypted circuit design data by combining the circuit design data and the dummy circuit design data, and, generating the key data, can be separately performed and need not be directly interdependent. The claims need not recite the particular manner by which the key data corresponds to the encrypted circuit design data to effect the "unlocking" thereof as apparently believed by the Examiner. One of ordinary skill in the art can perform the method by simply performing the conversion by combining the respective data by any known means and independently determine how to code the key data to access the circuit design data. Applicants' specification simply provides one non-limiting exemplary embodiment of doing so.

To emphasize this point, the Examiner should consider the formation of a combination lock whereby formation of the physical arrangement of the interlocking bars and the calculation of the numerical combination to unlock the bars do not need to be *directly* interdependent. Similarly, combining the circuit design data and the dummy circuit design data and generating the key data *can operationally stand alone* notwithstanding their potential indirect relationship, whereby the details of the encrypted circuit design data (analogous to physical arrangement of interlocking bars) and the key data (analogous to combination) embody all possible iterations without restriction even assuming there is a subsequent indirect interdependency when actually “unlocking” the circuit design data (which “unlocking” interdependency the claims need not be limited by).

Based on all the foregoing, it is respectfully requested that the § 112, second paragraph rejection be withdrawn.

Claims 1, 24 and 25 stand rejected under 35 U.S.C. § 103 as being unpatentable over Johnson et al. ‘452 (“Johnson”) in view of the article authored by Collberg et al. (“Collberg”). This rejection is respectfully traversed for the following reasons.

The Examiner has maintained the pending rejection by interpreting the predicates disclosed by Collberg as the claimed “key data” notwithstanding that the predicates of Collberg are previously inserted into the code *to form part of the code*, rather than being inputted to access the correct code. Indeed, Collberg simply integrates correct and dummy code using the predicates to form the alleged encrypted circuit, so that the predicates form part of the code. In order to clarify the distinction between the present invention and cited prior art, each of claims 1, 24 and 25 have been amended to recite that “wherein the circuit design data is selected to operate as targeted when

the (real) key data is inputted into the LSI *after* the step of converting the circuit design data into encrypted circuit design data” (emphasis added). In contrast, as noted above, the alleged key data of Collberg merely forms part of the alleged encrypted circuit design data so as to be “inputted” *during* formation of the alleged encrypted circuit design data. That is, once the alleged encrypted circuit design data of Collberg is formed, the alleged “key data” is already inputted within the source code as part of the alleged conversion so that it is not inputted after the alleged conversion.

In addition, with respect to claim 24 which recites in pertinent part, “wherein ... the dummy circuit design data is selected to operate with the dummy key data.” The alleged dummy circuit design data of Collberg can not *be accessed* with dummy key data. As expressly disclosed by Collberg, the dashed line path leading to the bugged code S<sup>b</sup> (Figure 4C of Collberg) *is never accessed* and therefore Collberg teaches away from claim 24. Furthermore, claim 25 recites in pertinent part, “generating dummy circuit design *data having a same number of inputs and a same number of outputs as those of said circuit design data.*” Again, Collberg is completely silent as to the particulars of the alleged dummy circuit *design*, let alone suggest that recited in claim 25. The Examiner merely concludes that Collberg discloses these limitations of claims 24-25 based on the existence of the alleged dummy data, without apparently appreciating the further details of the dummy data provided in claims 24-25. Collberg is completely silent as to the alleged dummy design data having the same number of inputs/outputs as the real circuit and actually teaches away from accessing the alleged dummy data.

The Examiner is directed to MPEP § 2143.03 under the section entitled "All Claim Limitations Must Be Taught or Suggested", which sets forth the applicable standard:

To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. (citing *In re Royka*, 180 USPQ 580 (CCPA 1974)).

In the instant case, the pending rejection does not "establish *prima facie* obviousness of [the] claimed invention" as recited in claims 1, 24 and 25 because the proposed combination fails the "all the claim limitations" standard required under § 103.

Based on the foregoing, it is respectfully submitted that all pending claims are patentable over the cited prior art. Accordingly, it is respectfully requested that the rejection under 35 U.S.C. § 103 be withdrawn.

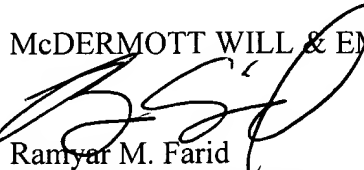
**CONCLUSION**

Having fully responded to all matters raised in the Office Action, Applicants submit that all claims are in condition for allowance, an indication for which is respectfully solicited. If there are any outstanding issues that might be resolved by an interview or an Examiner's amendment, the Examiner is requested to call Applicants' attorney at the telephone number shown below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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